

IC FOR UNIVERSAL COMPUTING WITH ZERO PROGRAMMING COMPLEXITY

ABSTRACT OF THE DISCLOSURE

[69] A computing machine capable of performing multiple operations using a universal computing unit is provided. The universal computing unit maps an input signal to an output signal. The mapping is initiated using an instruction that includes the input signal, a weight matrix, and an activation function. Using the instruction, the universal computing unit may perform multiple operations using the same hardware configuration. The computation that is performed by the universal computing unit is determined by the weight matrix and activation function used. Accordingly, the universal computing unit does not require any programming to perform a type of computing operation because the type of operation is determined by the parameters of the instruction, specifically, the weight matrix and the activation function.

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